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ABSTRACT

This paper describes the context of education at two Appalachian middle schools and examines family, community, and school factors related to the academic success of economically disadvantaged and middle-class students. The 429 students at two rural middle schools in Appalachian Kentucky and Tennessee were assigned to low socioeconomic status (SES) and middle-class groups on the basis of whether they received free lunch or paid full price. They were designated as high achievers if they had a grade point average above 2.5 and an average standardized test score above the 50th percentile. Subjects completed the Rural School Success Inventory (RSSI) and a writing sample that reflected their aspirations and world views. Ethnographic findings illustrate the similarities between the two schools and their communities, but also indicate important differences, such as economic circumstances and the value placed on schooling. Factor analysis of RSSI data differentiated between schools, SES groups, achievement groups, and subgroups of each according to scores on five RSSI categories: family life, leisure activities (outside school), economics, health and hygiene practices, and school activities. Studies, such as this one, that illuminate the interaction among personal, sociocultural, and school-related factors are potentially more useful to policymakers than the traditional inputs-processes-outcomes paradigm. Contains 53 references and 18 data tables. (SV)

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INPUTS, PROCESSES, OUTCOMES: THE CONTEXT FOR ACHIEVEMENT AMONG ECONOMICALLY DISADVANTAGED STUDENTS IN APPALACHIA

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I. INTRODUCTION

Economically deprived children have been studied from many viewpoints in recent years. In fact, the literature is replete with citations that deal with economically deprived students and school performance. Most (if not all) studies dealing with the school performance of children from low socioeconomic status homes operate from centrally reported, accessible aggregate data. These data have resulted from traditional reporting systems wherein data from single schools are reported to school districts, districts compile data for all schools in their jurisdiction, and states aggregate data from each district. The reported data take the form of either inputs (activities and services provided by schools) or outputs (indices of school performance, usually grades and standardized test scores as well as a host of data pertaining to such outcomes as attendance rate, retention rate, graduation rate, and the percentage of students who go on to post secondary education).

These mechanisms for reporting on and studying the school performance of low socioeconomic students have served to enlighten educators and policy makers, yet simultaneously, they have served to confuse. When policies pertaining to economically disadvantaged students are evolved, decision makers are likely to inform themselves with data developed through the traditional aggregate mechanisms. Many traditional definitions of "at-risk" students have been developed based on combinations of socioeconomic status, parental educational background, and other

types of aggregated data. These data, although useful to examine a group of students, do little to ensure that policies are developed that address the needs and concerns of individual students in differing locales.

As early as 1971, Daniel L. Stufflebeam identified several key ingredients of effective evaluation programs. The model proposed by Stufflebeam would have evaluators consider the context within which the data are developed, the inputs related to the outcomes observed, the processes utilized to generate the outcomes, and the outcomes (or product). During the decade of the 1980's education was roundly criticized for a seeming lack of effectiveness via some 30 national reports and 300 state task forces (Cross, 1984), yet careful study of the reports reveals recommendations primarily focused on inputs (e.g., time, teacher qualifications, etc.) and outcomes (e.g., graduation requirements, testing programs, etc.) (Passow, 1983). The current restructuring movement in education is based primarily on rearranging school inputs and processes to generate better outcomes, evidencing little consideration of either inputs not controlled by the school or the context within which schooling occurs.

Students come from different backgrounds, they live in diverse communities, and they have different expectations for their educational attainments (i.e., they intend to use their

education in differing ways). The same is true for economically disadvantaged students, and the study of the schooling endeavor as it relates to them must involve careful consideration of the context within which it takes places, the inputs that students bring to school, the inputs provided through the school, the processes employed by the school, and the eventual outcomes of schooling.

To fully understand the schooling process--the context, inputs, processes, and outcomes--knowledge from several disciplines must be utilized. Interdisciplinary study of the classroom, instruction, school, home/family, and community must be carried out as part of a cogent, rational research agenda (Ralph, 1988). Researchers ". . . must look beyond simple markers of ascribed status (e.g., parental education, family income, number of bathrooms in the home) and study more dynamic and instrumental aspects of parental influence. . ." (Lancy, 1993, p. 74). In turn, policy decisions affecting economically disadvantaged students must be rooted in data derived from research that accounts for the interaction among personal, socio-cultural, and school-related factors (Jachman, 1987).

II. PURPOSE OF THE STUDY

The purpose of this study was to determine what inputs, processes, and outcomes separate economically disadvantaged Appalachian middle school students who succeed in school from

those who do not. These inputs, process, and outcomes were identified in the family, community, and the school. Specifically, this study sought to fulfill the following objectives:

1. To identify those middle class (affluent) and those economically disadvantaged students in the sample who are successful in school;
2. To identify those middle class (affluent) and those economically disadvantaged students in the sample who are not successful in school;
3. To describe the context within which these students live and go to school;
4. To identify what characteristics differ among successful and unsuccessful students in the various groups in the sample;
5. To identify policy implications from the findings.

III. REVIEW OF THE RELATED LITERATURE

Rural schools account for nearly two-thirds of the schools in the United States and educate from one-fourth to one-third of all public school students (Stephens, 1988), yet when the phenomenon of economically deprived students has been studied, nearly all researcher attention has been given to inner-city students. The research on at-risk students has evolved around two basic themes--socioeconomic factors and cultural factors. The review to follow will examine these two themes as they relate to rural school students. In addition, the review of literature below will address school inputs and processes as well as the

emerging consensus pertaining to the study of school effectiveness in relation to specified outcomes.

Socioeconomic Status

The impact of socioeconomic status (SES) on school performance is evidenced through the value placed on education by children and families from different social classes and through differential educational aspirations (Lareau, 1989). Educational performance of students is more heavily influenced by socioeconomic and associated characteristics than by what actually occurs in school (Hobbs, 1990). Schooling, especially for low SES students, has been held out as a vehicle of empowerment (Schorr, 1989), yet the cycle of poverty described by the Heller Report of the early 1960's is still evident. McNeil (1988) suggests:

> . . . a child *becomes* an upper-class, prep school graduate with medical school aspirations; or a lower-class, teenaged mother about to drop out of school, not just because they were born into a particular kind of family. Family background sets up a set of expectations for present and future behavior, as well as influencing how other people will react to and interpret the consequences of that type of background (p. 475).

Education Week (1986) reported that the birth rate is linked to social class, i.e., birth rates are increasing for lower social classes but are declining for higher social classes. As a result poor children are over represented in the school population. The national decline in test scores is not

coincidental to the increase in children in the United States who live in poverty (Hobbs, 1990).

Rural areas have a disproportionately large segment of the nation's poor and economically marginal (Lichter & Costanzo, 1987). Most of the 242 persistent poverty counties in the country since 1950 are rural southern counties (Bender et al., 1985). In 1985 the rural poverty rate was 18.3%, whereas the urban poverty rate was 12.7% (Brown & Deavers, 1988).

Brown and Deavers point out:

> In rural areas, poverty among older persons fell from 23 percent to 18 percent, and the rate for youths rose from 17 percent to 24 percent. The diminished economic position of children is related to changes in households and family structure, and especially the increase in families maintained by women with no spouse present . . . . 58 percent of rural children living in female-headed families are poor compared with 18 percent of children living in other family types. The child rate of poverty has increased for all residence and family types since 1973 (p. 5).

The makeup of the household directly impacts the eventual success (or lack of success) of students. There is a relationship between the intellectual environment of the home and the measured IQ of children. In addition, the home environment predicts school achievement as well as the IQ of the student (Trotman, 1977). Early influences of the home on the eventual school performance of students is strong and lasting. Entwisle and Hayduk (1988) report that the influences of parents and teachers on student performance in the early grades hold four to

nine years later. In fact, much of student performance in school can be accounted for by student academic self-concept, and the academic self-concept of students is influenced more by their parents' appraisals than by their actual achievement (Phillips, 1987).

Higher SES students score higher on standardized achievement tests than lower SES students (Lark, 1984; Teddlie, 1984, 1987; Gibbons, 1986; Schmitt, 1988). Family structure also directly impacts student performance, particularly for low SES students. Generally, students from two-parent homes outperform students from single-parent homes on measures of school achievement (Peterson & Zill, 1986; Myers, Milne, Baker, & Ginsburg, 1987; Stevenson & Baker, 1987). This is particularly important for students from lower socioeconomic homes due to the fact that lower family income mitigates against school performance. Low SES students from two-parent homes also perform better than low SES students from one-parent homes (Allan & Tadlock, 1986). Thus low socioeconomic status students from single-parent homes are subject to double jeopardy for poor school performance.

Behavior problems of children are associated with marital disruption and tend to increase with multiple disruptions (Peterson & Zill, 1986). Children from mother-only households are more likely to engage in deviant behavior than children from two-parent households or households in which a non-father male is

present (Dornbusch et al., 1985). Steinberg (1987) reports that children from single-parent and two parent homes with a stepparent are more susceptible to antisocial peer pressure than are children from families with both natural parents present, and Myers, Milne, Baker, and Ginsburg (1987) report that children from one-parent families misbehave more often in school. High and persistent conflict in intact households is also associated with increases in negative behavior by children (Peterson & Zill, 1986).

A great deal of study has taken place in recent years regarding the link between mothers who work and the school performance of their children. The basic principle underlying this research is that mothers who work function less effectively in nurturing their children, principally as this role impacts schooling. The evidence pertaining to the impact of working mothers is somewhat contradictory, however.

Myers, Milne, Baker, and Ginsburg (1987) found that students whose mothers work received lower grades and scored lower on standardized achievement tests than students whose mothers did not work. Lempers, Lempers-Clark, and Simons (1989) declare that family economic hardship is directly related to feelings of depression and loneliness by children. These feelings spring from less parental nurturance and inconsistent discipline in the home. When other family characteristics are controlled, children

of mothers who work briefly or who decrease their working pattern over time achieve somewhat lower than children of mothers who have never worked. Children whose mothers increase their working hours or maintain their current working hours are not adversely affected (Heyms & Catsambis, 1986). However, employment of the mother may have positive effects on the school achievement of low socioeconomic status children (Milne, Myers, Rosenthall, & Ginsburg, 1986).

The educational level of parents is also an important covariate to school achievement. It is generally accepted that as the socioeconomic class of parents rises, so does the educational level they have attained. Most research points to the mother's educational attainment as the key to school success for children. The educational attainment of the student's mother is positively associated both with academic performance and aspirations (Myers, Milne, Baker, & Ginsburg, 1987). Mothers who have higher educational attainment are more involved in their children's education. Better school performance stems from this involvement, not from the mother's educational level alone (Stevenson & Baker, 1987).

Strategies for the management of children's schooling do not vary by socioeconomic status, but the implementation of those strategies does. Mothers with a college education are more likely to take action based on better knowledge about their

children's schooling. These parents have more contact with teachers and tend to choose college preparatory experiences for their children regardless of their children's prior school performance. Higher SES students tend to do better in school because their parents possess better skills for academic management (Baker & Stevenson, 1986).

School personnel often allocate poor school performance of low SES students to low parental aspirations for their children and a resulting lack of parental support. But Lareau (1987) reports that low SES parents hold high aspirations for their children's school performance. They differ from higher SES parents in that they tend to allocate responsibility for their children's school performance to teachers while higher SES parents tend to view responsibility for their children's school performance as shared by teachers and family members. This is manifested through differing patterns of parental involvement in their children's schooling.

Helge (1990) reports that a higher percentage of rural children than non-rural children are considered by school officials to be substance abusers, to be sexually active, to suffer from depression, to be involved in crime, and to be victims of child abuse. In effect, school officials are describing a family structure in rural homes characterized by factors which operate to lower school achievement.

Cultural Factors

The school operates within the framework of the larger community. The lines of contact between the student and the community, between the student and the school, and between the school and the community are not always clearly delineated. Cole and Griffin (1983) caution that school failure is not caused by a single institutior such as the school or family. Failure (and success for that matter) occurs as a result of the nexus of several components. SES, culture, and school inputs and processes are intertwined in student performance in school.

Trueba (1989) argues that culture provides the foundation for the motivation to succeed in school. Bourdieu (1977a; 1977b; 1984; 1987) suggests, however, that socioeconomic status affects the cultural resources available in the home; therefore, student success in school becomes a function of culture. Some school children are isolated due to the school's failure to account for the culture of the larger community and the congruence (or lack of it) between the expectations of the school and those of the community (Delgado-Gaitan, 1989). Ultimately culture influences how and what people learn (Berliner & Casanova, 1985; 1986a; 1986b).

School Factors

The school is the vehicle through which culture and socioeconomic status most prominently reveal themselves,

particularly in student academic performance. The climate of the school, teacher and student expectations, community values, and parental aspirations and expectations all converge within the framework of the school.

Student perceptions of the school are key ingredients for academic performance. Early school success leads to success later in school, and early school success is primarily associated with school climate (particularly teachers' perceptions of it), student maturity, and student academic self-image (Pallas, Entwisle, Alexander, & Cadigan, 1987).

Teachers play a critical role in how students eventually come to perceive themselves in the academic arena. Alexander and Entwisle (1987) found that low SES students of high SES teachers experienced greater difficulties in school than students whose socioeconomic backgrounds more closely approximated their teachers'. Low SES teachers' interactions with higher SES students did not affect the performance of students to the degree that high SES teachers' interactions with lower SES students did.

The academic experiences of students in school are often influenced by socioeconomic factors. Vanfossen, Jones, and Spade (1987) found a direct link between SES and high school curriculum tracking. Factors associated with ultimate curriculum track location included: number of courses taken, academic performance, educational and occupational aspirations,

satisfaction with school, perceived values of friends, self-esteem, extracurricular participation and leadership, eventual enrollment in post secondary education, disciplinary climate, and teacher interactions/expectations. Student aspirations to attend college and having friends with similar aspirations increased the likelihood of the student enrolling in college-preparatory high school courses (Alexander & Cook, 1982).

Student time and effort toward school success is also highly influenced by factors within the school. Natriello and McDill (1986) found a direct impact from teachers', parents', and peers' expectations on the time students spent studying , yet only teachers' and peers' performance expectations had a positive impact on student performance.

Henry, Bobbett, & French (1990) found that the context of successful rural high schools differed significantly from the context of other successful high schools. Although the schools in their study were characterized by high proportions of at-risk students, successful rural high schools were able to perform admirably in terms of student performance on regularly reported outcome measures by focusing on individual student needs while maintaining high expectations for achievement for all students.

Emerging Consensus on School Effectiveness Related to Outcomes

Many states are now preparing expanded versions of aggregated reporting systems to account for a refined focus on

educational outcomes. An indicator system, or framework into which an array of indicators are placed for review and analysis, seems to be the route most states are taking to ensure necessary modifications in policy and practice related to stated goals or outcomes (Kagan & Coley, 1989).

Well designed indicator systems place input and process data within a framework that allows relationships among them to be examined. This linking of inputs and processes with outcomes is the general framework of favor among the states (Kaagan & Coley, 1989). The Rand Corporation sponsored a project to improve reporting of mathematics and science achievement (Shavelson, McDonnel, Oakes, Carey, & Picus, 1987) which illustrates this concept. The model identifies inputs as fiscal and other resources; teacher quality; and student background. These inputs influence what occurs within the processes identified as school quality, curriculum quality, teaching quality, and instructional quality. Theses processes develop outcomes identified as achievement, participation, and attitudes and aspirations. All factors in the model are viewed as interrelated, but primary consideration is given to those factors controlled directly by schools.

Effective reporting systems must meet three key features identified by Kaagan and Coley (1989) as requisite for a successful indicator system: (1) school level data are

available, (2) information pertaining to the quantity and capability of school staff is available, and (3) the unit of data collection is clearly identified as the student. Data are then aggregated to the class, the school, the district, and finally the state as a whole.

IV. DESIGN OF THE STUDY

Subjects

The subjects for this study were 429 students from two rural Appalachian middle schools in the adjacent states of Tennessee and Kentucky. In order to preserve the anonymity of the schools and students, the schools were given pseudonyms based on the state flower (i.e., the Tennessee school was called Iris Middle School [Iris], and the Kentucky school was called Goldenrod Middle School [Goldenrod]). The schools were chosen because of the concentration of free and reduced lunch status students in each; therefore, the student population contained a dense cluster of economically disadvantaged students who are traditionally defined as at-risk for school failure. Middle schools were chosen for this study to reduce the effect of school dropouts on the results.

Subjects were divided into three distinct groups indicative of their lunch status and thereby their socioeconomic status (i.e., full price lunch students, reduced price lunch students,

or free lunch students). Of the total sample, 227 were females and 202 were males. There were 177 students (92 females and 85 males) who paid full price for their school lunch, 45 students (26 females and 19 males) who paid reduced price, and 200 students (104 females and 96 males) who received free school lunches.

The proportion of students who were considered economically disadvantaged (i.e., either free or reduced price lunch) varied somewhat between the two schools. The proportion of economically disadvantaged students in Iris was 48.3% (51.2% for 7th graders and 45.6% for 8th graders), whereas the proportion of economically disadvantaged students in Goldenrod was 64.9% (64.3% for 7th graders and 65.4% for 8th graders). The male/female at-risk ratio was stable across grades. For the total sample, 58.1% (58.8% for 7th graders and 57.4% for 8th graders) of the students were considered economically disadvantaged. In order to be faithful to the purposes of the study, those students who received reduced-price school lunches were eliminated from the data analyses in order to ensure that only affluent and low socioeconomic status students were studied.

Data Collection

The professional staff of the two schools were highly involved in the planning and execution of the study. The staff of the schools in the study extracted student permanent record

data, coded each record with a control number, and administered the inventory used in the study. It is important to note that all student data collected from permanent records and inventory responses were provided to the research team anonymously, but the data collected in the inventory were linked to the permanent record of each student through the control number assigned by the schools' professional staff.

Grades, standardized test scores, and number of days absent were extracted by local school personnel from the permanent records of subjects. The two schools in the study did not report grades in the same subjects (i.e., Goldenrod and Iris had somewhat different curricula), nor did they report standardized test scores on the same nationally normed tests. Therefore, for purposes of this investigation, student grades in English, mathematics, science, and social studies were averaged and assigned to one of two categories (0-2.5 or > 2.5 overall grade average). Student standardized test scores in mathematics, language, science, and social studies were also averaged and assigned to one of two categories (0-50th percentile or > 50th percentile).

All students were administered the Rural School Success Inventory (RSSI) (Phelps, Smith, Raftery, Mulkey, McNamara, & Henry, 1990) that addressed family/home factors, community factors, and school factors. The RSSI is a base instrument that

was adjusted in collaboration with the school personnel to fit the characteristics of each school and community (e.g., places of employment of parents). The instrument contained 115 items subdivided into five distinct categories: Family Life (43 items), Leisure Activities (20 items), Economics (15 items), Health and Hygiene Practices (14 items), and School Activities (23 items). Subjects were assigned to one of two groups--low achieving students or high achieving students. Low achieving students were those with an overall grade point average in English, mathematics, social studies, and science of less than 2.5 **and** an average standardized test score on the language, mathematics, social studies, and science sections of less than the 50th percentile. High achieving students were those with an overall grade point average in English, mathematics, social studies, and science of greater than 2.5 **and** an average standardized test score on the language, mathematics, social studies, and science sections of greater than the 50th percentile. If subjects did not meet the criteria for assignment to either group (i.e., their academic performance was inconsistent), they were dropped from further analyses.

Subjects were also assigned to one of two groups based on their socioeconomic status (i.e., affluent or low SES) based on their school lunch status. Students who paid full price for their school lunches were assigned to the affluent student group;

those who received free school lunches were assigned to the low SES group. Students who received reduced price school lunches were dropped from further analyses so as to clearly delineate between those students who were economically disadvantaged and those who were not. The RSSI was administered during each student's English class (Goldenrod) or science class (Iris) in short intervals; therefore, the process of survey administration was accomplished over the course of a series of administrations.

Each student completed a writing sample during regular English class activities. The writing sample was intended to develop data pertaining to the student's aspirations and also to obtain data regarding the student's world view. Students were asked to respond to the following writing prompt:

> Assume that it is the year 2000. You are attending a community celebration in "Name of Town". In the space below describe the major events in your life since 1991. Be sure to include education, job, marriage, children, income, place where you live, etc. Use complete sentences.

An ethnographic study of each community/school was also conducted. This activity was carried out through site visits, direct observation, source document research, and interviews. The data developed from this activity set the context within which the students in the two schools live and work. The ethnographic data also identified the school processes operating at the two sites.

Data Analyses

Student grades and standardized test scores were used to differentiate between those economically disadvantaged students who were successful in school and those who were not. Students with a grade average in English, mathematics, science, and social studies above 2.5 **and** average standardized test scores on the mathematics, language, social studies, and science sections above the 50th percentile were considered high achievers. Students with a grade average in English, mathematics, science, and social studies below 2.5 **and** average standardized test scores on the mathematics, language, social studies, and science sections below the 50th percentile were considered low achievers. The subjects were also grouped by their socioeconomic status. Students who paid full price for their school lunch were assigned to the affluent student group, and students who received free school lunches were assigned to the low SES group. Students who did not meet the criteria for assignment to the successful or unsuccessful groups or those who received reduced price school lunches were dropped from further analyses. These groups provided the basis for analyses of the RSSI data and the data from the writing samples.

RSSI data were analyzed via factor analysis to determine what similarities and differences existed among the groups on each inventory area. Results were then used to determine how

best to describe the differing groups (e.g., Goldenrod affluent high achievers).

Writing samples were read and coding categories developed pertaining to the students' aspirations and world view. Results of the coding and use of relevant quotations from the writing samples were used to develop an holistic portrait of economically disadvantaged students in the two schools.

Ethnographic data were analyzed and reported via an holistic overview. The conduct of the qualitative study allowed for utilization of structured and unstructured observations as well as structured and unstructured interview responses.

V. FINDINGS

Context

Iris County Schools (Tennessee) and Goldenrod Schools (Kentucky) are alike in a number of very important ways. Both are in the Appalachian Mountain region and experience the common attributes associated with Appalachia. Both are marked by large numbers of families living in poverty. Transfer payments (unemployment, AFDC, WIC, retirement, social security, Black Lung, free and reduced lunch and breakfast, etc.) constitute a considerable amount of local income.

Historically, education has neither been highly valued nor easily available in either area. Existing school buildings are

usually quite old, and are in (constant) need of repair; new school buildings are difficult to come by. Course offerings are generally limited; higher level courses, if taught at all, are often taught by those not qualified to teach them.

Both areas are comprised of small communities located quite a distance from the existing school structure. Many of the communities have lost their smaller school over time; a number have maintained a sense of community through community centers (often in the old school building), volunteer fire departments, head start, etc.

Area economies have seen better days. Iris is noted by farms (tobacco, grain) and factories (cut-and-sew), while Goldenrod has been almost totally dependent on coal. Both areas have logging and pulpwood operations, but these are weather-dependent, and employment is not a constant.

The areas are marked by a low cost of living and are relatively free of crime, particularly violent crime. Most inhabitants are local to the area, and take over the homes and property of the family. Historically, property may have been sold, but it was seldom <u>offered</u> for sale. Property purchased was usually by members of the family (or the community), and usually for <u>value</u>, and not at auction to the highest bidder.

Even though Iris County (Tennessee) and Goldenrod (Kentucky) share a number of common characteristics, they differ in a number

of very important ways. Iris County has long been an agricultural community and center of river traffic. The declines in the national agricultural economy of the 1980s have greatly impacted Iris county.

Additionally, a number of years ago a federally funded project purchased and flooded much of the low lying, very productive farm land. The owners of these large parcels of farm land quite often left the county. Their children were many of the higher scoring, more highly motivated students in the Iris Schools. This valuable farm property was removed from the tax roles, farm supplies (chemicals, seed, implements) were removed from the economy, and a source of employment was removed.

An eroding river traffic was also further reduced by an interstate highway running through a nearby city. This city has now become the commercial hub for the area, further drawing away the economic base for Iris County. Car dealerships and small, locally owned businesses closed.

The declining economic base saw the children of Iris, particularly the more well educated, leave. Family homes and a number of remaining farms were put up for sale. Property has been very cheap, and a number of young retirees have purchased property (particularly outlying small farms) and moved in. Most are well accepted by their new communities if they try to fit in and participate in community activities.

Two other sources of new residents are not so well accepted. The area has long been noted for its hunting, and Tennesseeans from surrounding towns and counties have dotted the hillsides with hunting camps. Often these hunters had roots in Iris and were hunting on family property. Lately, however, property in small parcels have been sold to out-of-staters who build small hunting camps, and fly or drive in for a short hunting trip. These new residents are seen as taking natural resources from the county without contributing to the local economy.

The other new residents, however, are considered to be the source of problems in the county schools. Because the federal river project displaced such a large number of residents, federal housing projects were created. Many of those displaced, and a number of the impoverished hill-and-hollow residents, were relocated to the low-rent apartment or housing units. The availability of low rent housing throughout the county and of the federal low rent projects have attracted a number of out-of-state residents who bring with them children who enroll in Iris Schools. Many of these students come from homes with less-than-desirable family circumstances; from families which move constantly in search of employment, or social welfare benefits, or to stay a step ahead of creditors; from families with extended sets of relations or relatives (half-brothers and sisters, children by marriage, children caught in the relationships of

parents, etc.); from parent or parents who can no longer look after their children, and who send them to their parents or cousins or friends.

Academic achievement is not greatly desired by students in Iris. Those who value education see it as a way to a better life and a way out; this is most often expressed as a way out to a better life. Many students in Iris Middle School express a desire to leave the school and area quickly. Many want to leave for another high school, and virtually all want to live out of the area. While many express a desire to attend college, very few express any desire to live in Iris after graduation. Higher SES students seem to express more realistic job aspirations and expectations. Higher SES students who achieve express little or no worry of the cost of attending college, while the lower achievers often express cost as a major concern. Lower SES students want out of the county. The higher achievers speak of encouragement to attend college, and of ways of financing college costs.

The economic base of Iris County cannot support its local population, and the outsiders drawn to low cost of living and low crime rate of the area are an extra burden. Local school services are strained to address the needs of the local children who come from homes with undereducated and unemployed parents; present local school services cannot begin to address the demands

of newer students. School facilities are old and have not received the maintenance or renovations necessary.

Goldenrod shares similar geographic, student, family, and community characteristics with Iris County. There are sufficient differences, however, which greatly impact Goldenrod School and its students.

The major difference is Goldenrod has historically been almost totally dependent on the coal industry as an economic base. Today, few mining jobs are available and unemployment is high. Many Goldenrod residents are older and exist on retirement (social security, miner's pension) or disability (black lung) for sources of income. Many younger residents are on unemployment or survive with the help of retired/disabled family members.

There are a few jobs available locally in the grocery store, five and dime, etc., but they are often held by the family members of the owners of the businesses. The school is a major employer, and competition for teaching jobs is great.

Property has long been owned by absentee corporations, usually involved in coal mining. When the mines sold their camps, homes were purchased by miners who could afford it. These homes, too, typically stay within families and seldom go on the market. The mountains, then, are not dotted, as is Iris, by hunting camps. Few outsiders move to Goldenrod unless they are former residents moving back or the children of former residents

moving in with relatives (usually grandparents) to escape the crime and cost of large cities.

Much of Goldenrod is as it has been for years. Community and school officials, however, realize the mines will never be the source of employment they were in the past. Those mines that still produce coal are either technologically advanced and use machines for excavation, or operated by smaller companies which pay low-wages in the lower producing mines.

The community and school sponsor many programs to prepare students for the world beyond the mines and Goldenrod. Sports programs are sponsored, in part, because tournaments and other competitions require students to travel across the state and region. Academic team competitions not only force travel, but also build confidence for students and faculty.

Academic and athletic excellence are both highly valued by Goldenrod School. The entrance to the school is dominated by the athletic trophies of the past, but the hall ways are also filled with the academic and artistic achievements of students. Parents and members of the community are generally very supportive of the academic emphasis of Goldenrod and attend academic awards events at the school like they do (though not to the extent) for athletic events. Most of the faculty members at Goldenrod, like those at Iris, are from the community. However, Goldenrod has a number of male faculty members who left the area for work and

returned with a broader perspective of the world. They form a vital cadre of faculty who have led the efforts for increased emphasis on academic achievement.

In their writings, virtually all students speak of finishing school at Goldenrod and of going to college. Few, however, mention where they will live or work after college. Most speak fondly of Goldenrod, of its natural resources, and of the need to reduce the pollution and increase the emphasis of the recreational potential of the area.

Few students express an overriding concern with the cost of an education. The school, through a number of programs, has worked over the years to provide funding for students to attend universities. Many of the higher SES students who are low achievers are male who seem less interested in academic achievement and more interested in employment. Lower SES high achievers have aspirations for college, but express concerns with cost. Lower SES students are more likely to express an interest in earlier marriages and starting families while still in college. Lower SES low achievers express an interest in college, but their expressed occupations are less likely to require a college degree. Many of the lower SES students seem to be alluding to community colleges (two years) when they talk of colleges.

Rural School Success Inventory

Scores on the distinct variables of the RSSI were calculated and standard scores for each derived for the following: the total sample of affluent students (n=72), the total sample of low SES students (n=89), the total sample of affluent high achieving students (n=55), the total sample of affluent low achieving students (n=17), the total sample of low SES high achieving students (n=31), the total sample of low SES low achieving students (n=58), all Goldenrod affluent students (n=30), all Goldenrod low SES students (n=60), Goldenrod affluent high achieving students (n=20), Goldenrod affluent low achieving students (n=10), Goldenrod low SES high achieving students (n=23), Goldenrod low SES low achieving students (n=37), all Iris affluent students (n=42), all Iris low SES students (n=29), Iris affluent high achieving students (n=35), Iris affluent low achieving students (n=7), Iris low SES high achieving students (n=8), and Iris low SES low achieving students (n=21).

Factor analyses for each of the above groups were conducted to determine what variables could be consolidated to describe the similarities and differences among the various groups. All data from factor analyses may be found in Tables 1 through 18 in Appendix A.

Factor Analyses

All Affluent Students

Two factors were extracted from the scores of all affluent students on the RSSI. The first factor, the interaction among family life (load=-0.531), health and hygiene practices (load=-0.462), and school activities (load=-0.462), had an eigenvalue of 2.2315 and accounted for 44.6% of the total variance among the scores of all affluent students on the RSSI. The second factor, the interaction between economics (load=-0.616), and leisure activities (load=0.579), had an eigenvalue of 0.9781 and accounted for 19.6% of the variance among the scores of all affluent students on the RSSI. Cumulatively, the two factors accounted for 64.2% of the variance among the scores of all affluent students (see Table 1).

Two factors were extracted from the scores of all affluent high achievers. The first factor, the interaction among family life (load=-0.529), health and hygiene practices (load=-0.511), and school activities (load=-0.453), had an eigenvalue of 2.0949 and accounted for 41.9% of the variance among the scores of all affluent high achievers on the RSSI. The second factor consisted singly of the leisure activities variable (load=0.628) and had an eigenvalue of 0.9943, accounting for 19.9% of the variance among the scores of all affluent high achievers on the RSSI. Cumulatively, these two factors accounted for 61.8% of the

variance among the scores of all high achieving affluent students (see Table 2).

Two factors were extracted from the scores of all affluent low achievers. The first factor, the interaction among family life (load=-0.522), leisure activities (load=-0.478), and school activities (load=-0.492), had an eigenvalue of 2.8025 and accounted for 56.1% of the total variance among the scores of all affluent low achievers on the RSSI. The second factor, the interaction between economics (load=-0.668) and health and hygiene practices (load=-0.524), had an eigenvalue of 1.1027 and accounted for 22.1% of the variance among the scores of all affluent low achievers on the RSSI. Cumulatively, the two factors accounted for 78.1% of the variance among the scores of all affluent low achievers (see Table 3).

Goldenrod Affluent Students

Only one factor (consisting of all five variables) was extracted from the scores of all Goldenrod affluent students (both high and low achievers). This factor, the interaction among family life (load=-0.529), leisure activities (load=-0.404), economics (load=-0.432), health and hygiene (load=-0.440), and school activities (load=-0.420), had an eigenvalue of 2.8125 and accounted for 56.3% of the variance among the scores of all Goldenrod affluent students on the RSSI (see Table 4).

Two factors were extracted from the scores of Goldenrod

affluent high achievers. The first factor, the interaction among family life (load=0.538), economics (load=0.457), and health and hygiene practices (load=0.450), had an eigenvalue of 2.7546 and accounted for 55.1% of the variance among the scores of Goldenrod affluent high achievers on the RSSI. The second factor, the interaction between leisure activities (load=-0.620) and school activities (load=0.554), had an eigenvalue of 1.0983 and accounted for 22% of the variance among the scores of Goldenrod affluent high achievers on the RSSI. Cumulatively, the two factors accounted for 77.1% of the variance among the scores of Goldenrod affluent high achievers (see Table 5).

Two factors were extracted from the scores of Goldenrod affluent low achievers. The first factor, the interaction among family life (load=-0.506), health and hygiene practices (load=-0.417), and school activities (load=-0.496), had an eigenvalue of 2.9645 and accounted for 59.3% of the variance among the scores of Goldenrod affluent low achievers on the RSSI. The second factor, the interaction between leisure activities (load=0.584) and economics (load=-0.710), had an eigenvalue of 0.9451 and accounted for 18.9% of the variance among the scores of Goldenrod affluent low achievers on the RSSI. Cumulatively, the two factors accounted for 78.2% of the variance among the scores of Goldenrod affluent low achievers (see Table 6).

Iris Affluent Students

Two factors were extracted from the scores of all Iris affluent students on the RSSI. The first factor, the interaction among family life (load=-0.623), health and hygiene practices (load=-0.402), and school activities (load=-0.554), had an eigenvalue of 1.6762 and accounted for 33.5% of the variance among the scores of Iris affluent students on the RSSI. The second factor, the interaction between economics (load=0.630) and leisure activities (load=-0.516), had an eigenvalue of 1.2550 and accounted for 25.1% of the variance among the scores of Iris affluent students on the RSSI. Cumulatively, the two factors accounted for 58.6% of the variance among the scores of Iris affluent students (see Table 7).

Two factors were extracted from the scores of Iris affluent high achievers on the RSSI. The first factor, the interaction among family life (load=-0.575), health and hygiene practices (load=-0.533), and school activities (load=-0.567), had an eigenvalue of 1.6040 and accounted for 32.1% of the variance among the scores of Iris affluent high achievers on the RSSI. The second factor, the interaction between economics (load=-0.568) and leisure activities (load=0.649), had an eigenvalue of 1.2067 and accounted for 24.1% of the variance among the scores of Iris affluent high achievers on the RSSI. Cumulatively, the two factors accounted for 56.2% of the variance among the scores

of Iris affluent high achievers (see Table 8).

Two factors were extracted from the scores of Iris affluent low achievers on the RSSI. The first factor, the interaction among family life (load=0.574), leisure activities (load=0.586), and school activities (load=0.533) had an eigenvalue of 2.6200 and accounted for 52.4% of the variance among the scores of Iris affluent low achievers on the RSSI. The second factor, the interaction between economics (load=-0.673) and health and hygiene practices (load=-0.684), had an eigenvalue of 1.5866 and accounted for 31.7% of the variance among the scores of Iris affluent low achievers on the RSSI. Cumulatively, the two factors accounted for 84.1% of the variance among the scores of Iris affluent low achievers (see Table 9).

All Low SES Students

Two factors were extracted from the scores of the total sample of low SES students. The first factor, the interaction among family life (load=-0.564), health and hygiene practices (load=-0.541), and school activities (load=-0.459), had an eigenvalue of 2.1066 and accounted for 42.1% of the total variance among the scores of all low SES students on the RSSI. The second factor consisted singly of the economics variable (load=-0.849) and had an eigenvalue of 1.0701, accounting for 21.4% of the variance among the scores of all low SES students on the RSSI. Cumulatively, the two factors accounted for 63.5% of

the total variance among the scores of all low SES students (see Table 10).

Two factors were extracted from the scores of all low SES high achievers on the RSSI. The first factor, the interaction among family life (load=-0.537), health and hygiene practices (load=-0.522), and leisure activities (load=-0.507), had an eigenvalue of 1.9936 and accounted for 39.9% of the variance among the scores of all low SES high achievers on the RSSI. The second factor, the interaction between economics (load=-0.784) and school activities (load=0.603), had an eigenvalue of 1.3016 and accounted for 26% of the variance among the scores of all low SES high achievers on the RSSI. Cumulatively, the two factors accounted for 65.9% of the variance among the scores of all low SES high achievers (see Table 11).

Two factors were extracted from the scores of all low SES low achievers on the RSSI. The first factor, the interaction among family life (load=-0.573), health and hygiene practices (load=-0.545), and school activities (load=-0.475), had an eigenvalue of 2.1651 and accounted for 43.3% of the variance among the scores of all low SES low achievers on the RSSI. The second factor, the interaction between economics (load=0.769) and leisure activities (load=-0.575), had an eigenvalue of 1.0628 and accounted for 21.3% of the variance among the scores of all low SES low achievers on the RSSI. Cumulatively, the two scores

accounted for 64.6% of the variance among the scores of all low SES low achievers (see Table 12).

Goldenrod Low SES Students

Two factors were extracted from the scores of all Goldenrod low SES students on the RSSI. The first factor, the interaction among family life (load=-0.546), health and hygiene practices (load=-0.535), and school activities (load=-0.483), had an eigenvalue of 2.2791 and accounted for 44.4% of the variance among the scores of all Goldenrod low SES students on the RSSI. The second factor consisted singly of the economics variable (load=-0.907) and had an eigenvalue of 1.0523, accounting for 21% of the variance among the scores of all Goldenrod low SES students on the RSSI. Cumulatively, the two factors accounted for 65.4% of the variance among the score of all Goldenrod low SES students (see Table 13).

Two factors were extracted from the scores of Goldenrod low SES high achievers on the RSSI. The first factor, the interaction among family life (load=-0.485), leisure activities (load=-0.504), health and hygiene practices (load=-0.515), and school activities (load=-0.489), had an eigenvalue of 2.2341 and accounted for 44.7% of the variance among the scores of Goldenrod low SES high achievers. The second factor consisted singly of the economics variable (load=0.791) and had an eigenvalue of 1.3830, accounting for 27.7% of the variance among the scores of

Goldenrod low SES high achievers on the RSSI. Cumulatively, the two factors accounted for 72.3% of the variance among the scores of Goldenrod low SES high achievers (see Table 14).

Two factors were extracted from the scores of Goldenrod low SES low achievers on the RSSI. The first factor, the interaction among family life (load=-0.568), health and hygiene practices (load=-0.524), and school activities (load=-0.490), had an eigenvalue of 2.2101 and accounted for 44.2% of the variance among the scores of Goldenrod low SES low achievers on the RSSI. The second factor consisted singly of the economics variable (load=0.903) and had an eigenvalue of 1.0078, accounting for 20.2% of the variance among the scores of Goldenrod low SES low achievers on the RSSI. Cumulatively, the two factors accounted for 64.4% of the variance among the scores of Goldenrod low SES low achievers (see Table 15).

Iris Low SES Students

Two factors were extracted from the scores of all Iris low SES students on the RSSI. The first factor, the interaction among family life (load=-0.613), health and hygiene practices (load=-0.542), and school activities (load=-0.452), had an eigenvalue of 1.8786 and accounted for 37.6% of the variance among the scores of all Iris low SES students on the RSSI. The second factor, the interaction between leisure activities (load=-0.708) and economics (load=0.675), had an eigenvalue of 1.0492

and accounted for 21% of the variance among the scores of all Iris low SES students on the RSSI. Cumulatively, the two factors accounted for 58.6% of the variance among the scores of all Iris low SES students (see Table 16).

Two factors were extracted from the scores of Iris low SES high achievers on the RSSI. The first factor, the interaction among family life (load=0.640), leisure activities (load=0.471), and economics (load=0.601), had an eigenvalue of 2.2600 and accounted for 45.2% of the variance among the scores of Iris low SES high achievers on the RSSI. The second factor, the interaction between health and hygiene practices (load=0.620) and school activities (load=0.646), had an eigenvalue of 1.1983 and accounted for 24% of the variance among the scores of Iris low SES high achievers on the RSSI. Cumulatively, the two factors accounted for 69.2% of the variance among the scores of Iris low SES high achievers (see Table 17).

Two factors were extracted from the scores of Iris low SES low achievers on the RSSI. The first factor, the interaction among family life (load=-0.594), health and hygiene practices (load=-0.603), and school activities (load=-0.493), had an eigenvalue of 1.9163 and accounted for 38.3% of the variance among the scores of Iris low SES low achievers on the RSSI. The second factor, the interaction between leisure activities (load=-0.647) and economics (load=0.732), had an eigenvalue of 1.2286

and accounted for 24.6% of the variance among the scores of Iris low SES low achievers on the RSSI. Cumulatively, the two factors accounted for 62.9% of the variance among the scores of Iris low SES low achievers (see Table 18).

Factor Interpretation

Total Sample

A truly homogeneous population, or samples from a truly homogeneous population, should yield factors that would be replicated throughout all separate factor analyses. When the various groups within the total sample were factor analyzed, the same factors should have been extracted for each group (i.e., all high achievers should have the same factors extracted from their scores, and all low achievers should have the same factors extracted from their scores). Such was not the case in the above analyses. The factors extracted from the various groups were not stable across the groups (e.g., Goldenrod affluent high achievers differed from the total sample of affluent high achievers and from Iris affluent high achievers, etc.). In fact, the RSSI measured different traits among the various groups.

In the total sample, the primary factor for both affluent and low SES students reflected the interaction among family life, health and hygiene practices, and school activities, and the factor loads were all negative. It is reasonable to infer from

the data that the primary influence measured by the RSSI for the total sample of affluent and low SES students was the directional (either positive or negative) influence of these different categories combined. A second factor was extracted from the scores of both affluent and low SES students in the total sample, but these factors were different for the two groups. For affluent students, the RSSI measured the interaction of economics and leisure activities, and this interaction was negative (i.e., the better the economic situation of the student, the fewer leisure activities engaged in). For low SES students, however, the economics variable stood alone as the second factor, and leisure activities contributed little to the total variance among the scores.

The factors extracted for the total sample of high achievers differed from those extracted for the total sample of all students. For affluent high achievers in the total sample, only one factor was extracted (the directional interaction among family life, health and hygiene practices, and school activities). This primary factor was the same as the primary factor for all high achievers, but for this group the leisure activities and economics variable contributed little to the total variance among the scores. For low SES high achievers in the total sample, two factors were extracted, but both of these factors differed markedly from those extracted from the scores of

the total sample of low SES students. The first factor (the directional interaction among family life, health and hygiene practices, and leisure activities) measured a totally different variable (or trait) than the primary factor extracted from either the total sample of low SES students or the total sample of affluent high achievers. The second factor extracted from this group (the opposite interaction of economics and school activities) measured a trait not evident in either of the other two groups.

Low achievers in the total sample also differed markedly from the total sample, the total sample of high achievers, and from each other. For the total sample of affluent low achievers, two factors were extracted. The primary factor (the directional interaction among family life, leisure activities, and school activities) measured a trait different from any other group in the total sample. The second factor extracted from the scores of this group (the directional interaction between economics and health and hygiene practices) also measured a trait not evident in any of the other groups. The total sample of low SES low achievers resembled the total sample of affluent students. Two factors were extracted from the scores of this group. The primary factor measured the directional interaction among family life, health and hygiene practices, and school activities; the second measured the opposite interaction between economics and

leisure activities. This group differed markedly, however, from the two other groups of low SES students in the total sample.

Goldenrod Students

The scores of all Goldenrod affluent students reflected a single trait measured in the directional interaction of all variables on the RSSI, but the scores of Goldenrod low SES students reflected two traits. The first factor extracted from the scores of all Goldenrod low SES students measured the directional interaction among family life, health and hygiene practices, and school activities. The second factor demonstrated the independence of the economics variable. For this group the leisure activities variable contributed little to the total variance among the scores on the RSSI.

Goldenrod affluent high achievers differed from the total sample of Goldenrod affluent students. Two factors were extracted from the scores of this group. The primary factor was the directional interaction of family life, economics, and health and hygiene practices. The second factor measured the opposite interaction between leisure activities and school activities. Goldenrod low SES high achievers differed noticeably from all Goldenrod low SES students and from Goldenrod affluent high achievers. Two factors were extracted from the scores of this group on the RSSI. The primary factor measured the directional interaction among family life, leisure activities, health and

hygiene practices, and school activities. The second factor again demonstrated the independence of the economics variable.

Goldenrod low achievers also differed from the total sample and from high achievers as well as each other. Two factors were extracted from the scores of Goldenrod affluent low achievers. The first measured the directional interaction among family life, health and hygiene practices, and school activities; the second measured the opposite interaction between leisure activities and economics. The factors extracted from the scores of Goldenrod low SES low achievers mirrored those extracted from the scores of all Goldenrod low SES students. Two factors were extracted from the scores of Goldenrod low SES low achievers. The first measured the directional interaction of family life, health and hygiene practices, and school activities; the second demonstrated the independence of the economics variable, yet this group was observably different from both affluent low achievers and low SES high achievers.

Iris Students

The factors extracted from the scores of Iris students also reflected diversity among the traits measured by the RSSI. Although both groups (affluent and low SES students) in the total sample of Iris students had scores that reflected the same two traits (factor one was the directional interaction among family life, health and hygiene practices, and school activities; factor

two was the opposite interaction between leisure activities and economics), the traits measured by the RSSI among affluent and low SES high achievers and low achievers differed considerably.

The primary factor extracted from the scores of Iris affluent high achievers was the directional interaction among family life, health and hygiene practices, and school activities. The second factor for this group measured the trait reflected in the opposite interaction between leisure activities and economics, and although this pattern mirrored those traits measured in all Iris affluent students, it differed from those measured in Iris low SES high achievers. The primary factor extracted from the scores of Iris low SES high achievers was the directional interaction of family life, economics, and leisure activities. The second factor was the directional interaction of health and hygiene practices and school activities. Not only did the traits measured by the RSSI differ from Iris affluent high achievers, they also differed remarkably from those found among all Iris low SES students.

Iris low achievers also showed different traits than did either all Iris students (either affluent or low SES) or Iris high achievers. For Iris affluent low achievers, the primary trait measured by the RSSI was the directional interaction among family life, leisure activities, and school activities. A second trait for this group reflected the directional interaction

between economics and health and hygiene practices. For Iris low SES low achievers, the primary trait measured by the RSSI was the directional interaction among family life, health and hygiene practices, and school activities. A second trait for this group reflected the opposite interaction of leisure activities and economics. This group resembled the total sample of Iris affluent students and Iris affluent high achievers, but it differed quite markedly from the total sample of Iris low SES students and Iris low SES high achievers.

Discussion of Factor Analyses

There are measurable differences among the various groups in the above analyses, yet making sense of those differences is a task that requires subtle interpretation of data with a knowledge of those groups and traits being measured by the instrument employed. Factor analyses are usually open to differing interpretation of the results, but the differences observed among the various groups analyzed above are rather straightforward.

Knowing that the various groups differ in the traits measured by the RSSI is insufficient to determine where differences exist between affluent high achievers and low SES high achievers, and further, between high achievers and low achievers within and between the socioeconomic groups. The makeup up high achievers not only differs from school to school and between the different socioeconomic status groups, but also

from low achievers within their respective socioeconomic group. Low achievers also differ between the two schools in the study and between the two socioeconomic groups.

None of the four high achieving groups (i.e., Goldenrod affluent, Goldenrod low SES, Iris affluent, or Iris low SES) exhibited the same traits as measured by the RSSI. Goldenrod high achieving affluent students were characterized by the positive influence of economics on family life and health and hygiene practices. This group was also characterized by students engaging in fewer leisure activities outside school as their school activities increased. Goldenrod low SES high achieving students were characterized by negative family life experiences, engagement in few leisure activities, poor health and hygiene practices, and participation in few school activities. The impact of economics on this group was independent of other variables.

Iris affluent high achievers were characterized by negative family life experiences exhibited in negative health and hygiene practices and participation in few school activities. This group also was characterized by increasing leisure activities as their economic situation worsened. Iris low SES high achievers, on the other hand, were characterized by positive family life experiences, coupled with good economic status (compared to other low SES students), and engagement in many leisure activities.

This group was also characterized by good health and hygiene practices coupled with participation in more school activities.

Goldenrod affluent low achievers were characterized by poor health and hygiene practices coupled with poor family life experiences and participation in few school activities. These students also engaged in more leisure activities as their economic situation worsened. Goldenrod low SES low achievers were characterized by the same interplay among family life experiences, health and hygiene practices, and participation in school activities, yet this group's participation in leisure activities accounted for little, and their economic situation functioned independently of other variables.

Iris affluent low achievers were characterized by positive family life experiences leading to engagement in more leisure and school activities. This group also was characterized by the negative influence on health and hygiene by a poor economic situation. Iris low SES low achievers, on the other hand, were characterized by poor family life experiences coupled with poor health and hygiene practices and participation in few school activities. This group also participated in fewer leisure activities as their economic situation improved.

VI. CONCLUSIONS

1. The communities, schools, and students studied are subtly and overtly similar.

The findings from the ethnographic portraits of the two communities and schools illustrate the similarities between the two. Additionally, close inspection of the findings from the analyses of the RSSI also indicate that in several key respects, the students in the two settings were quite similar.

2. The communities, schools, and students studied are subtly and overtly different.

Ethnograpic findings also indicate major community differences (e.g., differing economic bases) as well as subtle differences within each (e.g., the value placed on schooling). The two schools differed similarly (i.e., they approached their duties by reflecting the larger community). RSSI findings demonstrated quite clearly that the differences among the students in the two settings were far greater than their similarities.

3. The traditional examination of outcomes in terms of inputs and processes is insufficient to determine how best to intervene to help students in rural school settings.

If this research had been conducted utilizing the traditional inputs, processes, outcomes paradigm, little information useful for developing policies or programs to help the students in the two schools would have emerged. In fact, in order for any useful data to be developed via the inputs,

processes, outcomes paradigm, the data must first have been aggregated, and, therefore, all individual student linkage lost.

4. **The potential impact on policy making from the findings of this study is substantial.**

Traditional policy making mechanisms operate from the inputs, processes, outcomes paradigm by utilizing aggregated data to develop centralized policies to address concerns identified. This procedure has long been subject to failure primarily because the aggregation of input, process, and outcome data fails to account for subtle, yet powerful, differences among various sites where the policies will be implemented. The findings from this research indicate that the best route for policy makers to take is to decide where priorities lie within specific locales and to provide the necessary resouces for local personnel to develop data, prioritize and make policies, and to implement those policies.

VII. RECOMMENDATIONS FOR FURTHER RESEARCH

Based on their experiences in the current study the researchers recommend the following research be conducted:

1. Case studies of individual students should be conducted in order to analyze the specific impact of poverty on schooling on individual students. The findings from these studies could then serve to inform policy makers from a new, and perhaps, more powerful perspective.

2. The study should be replicated in various sites around the country in order to determine if there are regional characteristics that impact on the interplay of poverty and schooling.

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APPENDIX A

Table 1
Factor Analysis Results
Total Sample Affluent Students

	Family, Health, School Interaction	Leisure and Economics Interaction
Eigenvalue	2.2315	0.9781
Proportion of Variance	0.446	0.196
Cumulative Proportion of Variance	0.446	0.642
Factor Loadings		
Family	-0.531	0.165
Leisure Activities	-0.380	0.579
Economics	-0.375	-0.616
Health and Hygiene	-0.469	-0.430
School	-0.462	0.271

Table 2
Factor Analysis Results
Total Sample Affluent High Achievers

	Family, Health, School Interaction	Leisure
Eigenvalue	2.0949	0.9943
Proportion of Variance	0.419	0.199
Cumulative Proportion of Variance	0.419	0.618
Factor Loadings		
Family	-0.529	0.149
Leisure Activities	-0.331	0.628
Economics	-0.379	0.396
Health and Hygiene	-0.511	-0.395
School	-0.453	-0.519

Table 3
Factor Analysis Results
Total Sample Affluent Low Achievers

	Family, Leisure, School Interaction	Economic, Health and Hygiene Interaction
Eigenvalue	2.8025	1.1027
Proportion of Variance	0.561	0.221
Cumulative Proportion of Variance	0.561	0.781
Factor Loadings		
Family	-0.522	0.161
Leisure Activities	-0.478	0.414
Economics	-0.335	-0.668
Health and Hygiene	-0.379	-0.524
School	-0.492	0.285

Table 4
Factor Analysis Results
All Goldenrod Affluent Students

	Family, Leisure, Economic, Health and Hygiene, and School Interaction
Eigenvalue	2.8125
Proportion of Variance	0.563
Cumulative Proportion of Variance	0.563
Factor Loadings	
Family	-0.529
Leisure Activities	-0.404
Economics	-0.432
Health and Hygiene	-0.440
School	-0.420

Table 5
Factor Analysis Results
Goldenrod Affluent High Achievers

	Family, Economic and Health and Hygiene Interaction	Leisure Activities and School Interaction
Eigenvalue	2.7546	1.0983
Proportion of Variance	0.551	0.220
Cumulative Proportion of Variance	0.551	0.771
Factor Loadings		
Family	0.538	-0.081
Leisure Activities	0.398	-0.620
Economic	0.457	-0.283
Health and Hygiene	0.450	0.471
School	0.376	0.554

Table 6
Factor Analysis Results
Goldenrod Affluent Low Achievers

	Family, Health and Hygiene, and School Interaction	Leisure and Eonomics Interaction
Eigenvalue	2.9645	0.9451
Proportion of Variance	0.593	0.189
Cumulative Proportion of Variance	0.593	0.782
Factor Loadings		
Family	-0.506	-0.016
Leisure Activities	-0.435	0.584
Economic	-0.376	-0.710
Health and Hygiene	-0.417	-0.285
School	-0.496	0.269

Table 7
Factor Analysis Results
All Iris Affluent Students

	Family, Health and Hygiene, and School Interaction	Leisure and Economics Interaction
Eigenvalue	1.6762	1.2550
Proportion of Variance	0.335	0.251
Cumulative Proportion of Variance	0.335	0.586
Factor Loadings		
Family	-0.623	-0.117
Leisure Activities	-0.294	-0.516
Economic	-0.237	0.630
Health and Hygiene	-0.402	0.516
School	-0.554	-0.238

Table 8
Factor Analysis Results
Iris Affluent High Achievers

	Family, Health and Hygiene, and School Interaction	Leisure and Economics Interaction
Eigenvalue	1.6040	1.2067
Proportion of Variance	0.321	0.241
Cumulative Proportion of Variance	0.321	0.562
Factor Loadings		
Family	-0.575	-0.195
Leisure Activities	-0.083	0.649
Economic	-0.239	-0.568
Health and Hygiene	-0.533	-0.365
School	-0.567	0.291

Table 9
Factor Analysis Results
Iris Affluent Low Achievers

	Family, Leisure, and School Interaction	Economics and Health and Hygiene Interaction
Eigenvalue	2.6200	1.5866
Proportion of Variance	0.524	0.317
Cumulative Proportion of Variance	0.524	0.841
Factor Loadings		
Family	0.574	0.023
Leisure Activities	0.586	0.073
Economics	0.132	-0.673
Health a..d Hygiene	0.162	-0.684
School	0.533	0.270

Table 10
Factor Analysis Results
Total Sample Low SES Students

	Family, Health, School Interaction	Economics
Eigenvalue	2.1066	1.0701
Proportion of Variance	0.421	0.214
Cumulative Proportion of Variance	0.421	0.635
Factor Loadings		
Family	-0.564	-0.181
Leisure Activities	-0.356	0.253
Economics	-0.228	-0.849
Health and Hygiene	-0.541	-0.020
School	-0.459	0.426

Table 11
Factor Analysis Results
Total Sample Low SES High Achievers

	Family, Health, and School Interaction	Economics and Leisure Interaction
Eigenvalue	1.9936	1.3016
Proportion of Variance	0.399	0.260
Cumulative Proportion of Variance	0.399	0.659
Factor Loadings		
Family	-0.537	0.119
Leisure Activities	-0.507	-0.082
Economics	-0.154	0.784
Health and Hygiene	-0.522	-0.027
School	-0.399	-0.603

Table 12
Factor Analysis Results
Total Sample Low SES Low Achievers

	Family, Health, and School Interaction	Economics and Leisure Interaction
Eigenvalue	2.1651	1.0628
Proportion of Variance	0.433	0.213
Cumulative Proportion of Variance	0.433	0.646
Factor Loadings		
Family	-0.573	0.120
Leisure Activities	-0.289	-0.575
Economics	-0.256	0.769
Health and Hygiene	-0.545	0.033
School	-0.475	-0.248

Table 13
Factor Analysis Results
All Goldenrod Low SES Students

	Family, Leisure Health, and School Interaction	Economics
Eigenvalue	2.2191	1.0523
Proportion of Variance	0.444	0.210
Cumulative Proportion of Variance	0.424	0.654
Factor Loadings		
Family	-0.546	-0.103
Leisure Activities	-0.395	0.161
Economics	-0.163	-0.907
Health and Hygiene	-0.535	-0.071
School	-0.483	0.369

Table 14
Factor Analysis Results
Goldenrod Low SES High Achievers

	Family, Health, and School Interaction	Economics
Eigenvalue	2.2341	1.3830
Proportion of Variance	0.447	0.277
Cumulative Proportion of Variance	0.447	0.723
Factor Loadings		
Family	-0.485	0.130
Leisure Activities	-0.504	0.148
Economics	0.080	0.791
Health and Hygiene	-0.515	0.316
School	-0.489	-0.484

Table 15
Factor Analysis Results
Goldenrod Low SES Low Achievers

	Family, Health, and School Interaction	Economics
Eigenvalue	2.2101	1.0078
Proportion of Variance	0.442	0.202
Cumulative Proportion of Variance	0.442	0.644
Factor Loadings		
Family	-0.568	0.095
Leisure Activities	-0.347	-0.343
Economics	0.206	0.903
Health and Hygiene	-0.524	-0.005
School	-0.490	-0.241

Table 16
Factor Analysis Results
All Iris Low SES Students

	Family, Health, and School Interaction	Economics and Leisure Interaction
Eigenvalue	1.8786	1.0492
Proportion of Variance	0.376	0.210
Cumulative Proportion of Variance	0.376	0.586
Factor Loadings		
Family	-0.613	0.046
Leisure Activities	-0.167	-0.708
Economics	-0.312	0.675
Health and Hygiene	-0.542	-0.060
School	-0.452	-0.195

Table 17
Factor Analysis Results
Iris Low SES High Achievers

	Family, Economics and Leisure Interaction	Health and Hygiene and School
Eigenvalue	2.260	1.1983
Proportion of Variance	0.452	0.240
Cumulative Proportion of Variance	0.452	0.692
Factor Loadings		
Family	0.640	-0.020
Leisure Activities	0.471	-0.371
Economics	0.601	0.244
Health and Hygiene	-0.020	0.620
School	0.082	0.646

Table 18
Factor Analysis Results
Iris Low SES Low Achievers

	Family, Health and School Interaction	Economics and Leisure Interaction
Eigenvalue	1.9163	1.2286
Proportion of Variance	0.383	0.246
Cumulative Proportion of Variance	0.383	0.629
Factor Loadings		
Family	-0.594	0.163
Leisure Activities	-0.180	-0.647
Economics	-0.092	0.732
Health and Hygiene	-0.603	0.031
School	-0.493	-0.133